

AMENDMENTS TO THE CLAIMS

Please cancel Claims 9-12, 14-17 and 19-24 and enter the following new claims:

Claims 1-24 (Cancelled)

25. (New) An isolated protein encoded by a nucleic acid molecule selected from the group consisting of:

(a) a nucleic acid molecule comprising at least about 150 nucleotides wherein said nucleic acid molecule comprising at least 150 nucleotides hybridizes in a solution comprising 1X SSC and 0% formamide, at a temperature of about 50°C, to a nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of SEQ ID NO:16, SEQ ID NO:19 and SEQ ID NO:22; and

(b) a nucleic acid molecule comprising a fragment of any of said nucleic acid molecules of (a), wherein said fragment comprises at least about 15 nucleotides.

26. (New) The isolated protein of Claim 25, wherein said protein is encoded by a nucleic acid molecule having a nucleic acid sequence at least about 95% identical with a nucleic acid sequence selected from the group consisting of: SEQ ID NO:14, SEQ ID NO:17, and SEQ ID NO:20.

27. (New) The isolated protein of Claim 25, wherein said protein is selected from the group consisting of:

(a) a protein comprising an at least 30 contiguous amino acid sequence identical in sequence to an at least 30 amino acid sequence from SEQ ID NO:15, SEQ ID NO:18 or SEQ ID NO:21; and

(b) a protein comprising an amino acid sequence at least about 90% identical to a sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:18, and SEQ ID NO:21.

28. (New) The isolated protein of Claim 25, wherein said protein, when administered to an animal, elicits an immune response against a protein having the amino acid sequence of SEQ ID NO:18.

29. (new) The protein of Claim 25, wherein said protein is encoded by a nucleic acid molecule having a nucleic acid sequence selected from the group consisting of: SEQ ID NO:14, SEQ ID NO:17, and SEQ ID NO:20.

30. (New) The protein of Claim 25, wherein said protein comprises an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:18, and SEQ ID NO:21.

31. (New) The protein of Claim 25, wherein said protein selectively binds to IgE.

32. (New) The protein of Claim 25, wherein said protein comprises an epitope having at least one identifying characteristic selected from the group consisting of :

- (a) said epitope is resistant to β -elimination of peptides;
 - (b) said epitope is resistant to Proteinase-K digestion;
 - (c) said epitope is reactive to a test designed to detect glycosylated proteins,
- wherein said epitope binds to an IgE selected from the group consisting of canine IgE from dogs allergic to mites and feline IgE from cats allergic to mites.

33. (New) A kit for testing if an animal is susceptible to or has an allergic response to a mite, said kit comprising the isolated protein of Claim 1.

34. (New) The kit of Claim 33, wherein said kit comprises a means for determining if an animal is susceptible to or has an allergic response to a mite.

35. (New) A therapeutic composition for treating an allergic response to a mite, said therapeutic composition comprising an isolated protein encoded by a nucleic acid molecule selected from the group consisting of:

(a) a nucleic acid molecule comprising at least about 150 nucleotides wherein said nucleic acid molecule comprising at least 150 nucleotides hybridizes in a solution comprising 1X SSC and 0% formamide, at a temperature of about 50°C, to a nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of SEQ ID NO:16, SEQ ID NO:19 and SEQ ID NO:22; and

(b) a nucleic acid molecule comprising a fragment of any of said nucleic acid molecules of (a), wherein said fragment comprises at least about 15 nucleotides.

36. (New) The composition of Claim 35, wherein said protein is encoded by a nucleic acid molecule having a nucleic acid sequence at least about 95% identical with a nucleic acid sequence selected from the group consisting of: SEQ ID NO:14, SEQ ID NO:17, and SEQ ID NO:20.

37. (New) The composition of Claim 35, wherein said protein is selected from the group consisting of:

(a) a protein comprising an at least 30 contiguous amino acid sequence identical in sequence to an at least 30 amino acid sequence from SEQ ID NO:15, SEQ ID NO:18 or SEQ ID NO:21; and

(b) a protein comprising an amino acid sequence at least about 90% identical to a sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:18, and SEQ ID NO:21.

38. (New) The composition of Claim 35, wherein said protein is encoded by a nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of: SEQ ID NO:14, SEQ ID NO:17, and SEQ ID NO:20.

39. (New) The composition of Claim 35, wherein said protein comprises an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:18, and SEQ ID NO:21

40. (New) A method to identify an animal susceptible to or having an allergic response to a mite, said method comprising:

(a) contacting an isolated protein encoded by a nucleic acid molecule selected from the group consisting of:

(i) a nucleic acid molecule comprising at least about 150 nucleotides wherein said nucleic acid molecule comprising at least 150 nucleotides hybridizes in a solution comprising 1X SSC and 0% formamide, at a temperature of about 50°C, to a nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of SEQ ID NO:16, SEQ ID NO:19 and SEQ ID NO:22; and

(ii) a nucleic acid molecule comprising a fragment of any of said nucleic acid molecules of (i), wherein said fragment comprises at least about 15 nucleotides;

(b) determining immunocomplex formation between said protein and said antibodies, wherein formation of said immunocomplex indicates that said animal is susceptible to or has said allergic response.

41. (New) The method of Claim 40, wherein said isolated protein is encoded by a nucleic acid molecule having a nucleic acid sequence at least about 95% identical with a nucleic acid sequence selected from the group consisting of: SEQ ID NO:14, SEQ ID NO:17, and SEQ ID NO:20.

42. (New) The method of Claim 40, wherein said isolated protein is selected from the group consisting of:

(a) a protein comprising an at least 30 contiguous amino acid sequence identical in sequence to an at least 30 amino acid sequence from SEQ ID NO:15, SEQ ID NO:18 or SEQ ID NO:21; and

(b) a protein comprising an amino acid sequence at least about 90% identical to a sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:18, and SEQ ID NO:21.

43. (New) The method of Claim 40, wherein said isolated protein is encoded by a nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of: SEQ ID NO:14, SEQ ID NO:17, and SEQ ID NO:20.

44. (New) The method of Claim 40, wherein said isolated protein comprises an amino acid sequence selected from the group consisting of: SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:18, and SEQ ID NO:21.

45. (New) The method of Claim 40, wherein said step of contacting is performed *in vitro* or *in vivo*.

46. (New) A method to desensitize a host animal to an allergic response to a mite, said method comprising administering to said animal a therapeutic composition comprising an isolated protein encoded by a nucleic acid molecule selected from the group consisting of:

(a) a nucleic acid molecule comprising at least about 150 nucleotides wherein said nucleic acid molecule comprising at least 150 nucleotides hybridizes in a solution comprising 1X SSC and 0% formamide, at a temperature of about 50°C, to a nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of SEQ ID NO:16, SEQ ID NO:19 and SEQ ID NO:22; and

(b) a nucleic acid molecule comprising a fragment of any of said nucleic acid molecules of (a), wherein said fragment comprises at least about 15 nucleotides.

47. (New) The method of Claim 46, wherein said isolated protein is encoded by a nucleic acid molecule having a nucleic acid sequence at least about 95% identical with a nucleic

acid sequence selected from the group consisting of: SEQ ID NO:14, SEQ ID NO:17, and SEQ ID NO:20.

48. (New) The method of Claim 46, wherein said isolated protein is selected from the group consisting of:

(a) a protein comprising an at least 30 contiguous amino acid sequence identical in sequence to an at least 30 amino acid sequence from SEQ ID NO:15, SEQ ID NO:18 or SEQ ID NO:21; and

(b) a protein comprising an amino acid sequence at least about 90% identical to a sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:18, and SEQ ID NO:21.

49. (New) The method of Claim 46, wherein said isolated protein is encoded by a nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of: SEQ ID NO:14, SEQ ID NO:17, and SEQ ID NO:20.

50. (New) The method of Claim 46, wherein said isolated protein comprises an amino acid sequence selected from the group consisting of: SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15, SEQ ID NO:18, and SEQ ID NO:21.

51. (New) The method of Claim 46, wherein said therapeutic composition further comprises a component selected from the group consisting of an excipient, an adjuvant and a carrier.